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## **BJSM SHORT REPORT – PRE-PUBLICATION ACCEPTED VERSION**

### **Ensuring implementation success: How should coach injury prevention education be improved if we want coaches to deliver safety programs during training sessions?**

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**Abstract**

Coaches play a major role in encouraging and ensuring that participants of their teams adopt appropriate safety practices. However, the extent to which coaches undertake this role will depend upon their attitudes about injury prevention, their perceptions of what other coaches usually do and their own beliefs about how much control they have in delivering such programs. Fifty-one junior netball coaches were surveyed about incorporating the teaching of correct (safe) landing technique during their delivery of training sessions to junior players. Overall, >94% of coaches had strongly positive attitudes towards teaching correct landing technique and >80% had strongly positive perceptions of their own control over delivering such programs. Coaches' ratings of social norms relating to what others think about teaching safe landing were more positive (>94%) than those relating to what others actually do (63–74%). In conclusion, the junior coaches were generally receptive towards delivering safe landing training programs in the training sessions they lead. Future coach education could include role modelling by prominent coaches so that more community-level coaches are aware that this is a behaviour that many coaches can, and do, engage in.

## INTRODUCTION

Coaches play a major role in delivering safety interventions to players, especially for junior participants.[1-5] In many sports, coaches determine what specific activities (e.g. conditioning programs) players undertake during training to reduce their risk of injury.[5, 6] This requires them to plan their coaching strategies to ensure they deliver safety programs and techniques to their players.

Most studies of coaches' delivery of safety measures are limited because they only focus on their attitudes.[7] Therefore, there is very little published information about the broader range of coach behavioural determinants that could impact on their willingness to deliver safety programs to their players. For example, behavioural change theories such as the Theory of Planned Behaviour (TPB) have identified social norm influences (e.g. perceptions about what others think and do) and perceived behavioural control (e.g. how much control they have over doing the behaviour) as important behavioural determinants.[8]

This paper describes coaches' attitudes, subjective norms and perceived behavioural control in relation to them delivering safety programs to the junior teams they lead. The specific application is to coaches' teaching of "correct landing technique to netball players during every training session" (or CLT) to reduce the latter's risk of lower limb injury.

## METHODS

Sixty-one club-nominated junior coaches from two netball associations in Victoria, Australia were invited to participate. The study was approved by the University of Ballarat Human Ethics Committee and all coaches gave their informed consent before participating.

A 12-item (seven-point bipolar scale) self-report questionnaire based on the Theory of Planned Behaviour (TPB) was developed to assess coach attitudes, subjective norms and perceived behavioural control [9] in relation to them teaching CLT. The questionnaire was completed before the first game of the season.

## RESULTS

Fifty-one coaches (84% response rate) completed the questionnaire. Most had positive attitudes towards teaching CLT and none responded negatively to any attitude item (Table 1). The majority responded positively to the subjective norm items (Table 1). There was more variability for items concerned with other coaches' actual teaching practices than with what other coaches think about teaching CLT. No coach was 'extremely' negative about any statement.

The majority of coaches had strongly positive perceived behavioural control (Table 1). There was more variability in relation to their perceived control over being able to teach CLT than in their perceived capability to teach it.

## **DISCUSSION**

Coach-led programs designed to teach CLT to players have the potential to decrease lower limb injury risk in netballers and other sports.[2] However, the success of interventions incorporating such training programs depends on coaches incorporating them into their regular training session delivery plans.[2, 6] Even though players are the intended end beneficiary of such programs, the attitudes and beliefs of coaches influence whether or not such programs are delivered to players in the first place.[1, 10]

Overall, coaches had consistently strong positive attitudes towards teaching CLT to their junior players. This suggests that a) they would be receptive towards receiving specific education about how to deliver such programs; and b) such education would not need to have a heavy focus on explaining why safe landing technique training in junior netball is important. This is in contrast to a survey of junior rugby union coaches that identified a clear need for further education about the mechanisms and early management of injury.[3]

The coaches held strong positive beliefs that other coaches would support the need to teach players about CLT, but they were not sure that many of their contemporaries actually did so. This suggests that coach education programs should include coach role models, perhaps through illustrative examples and case studies, as social pressure (e.g. peer role models) could influence coaches' intentions to deliver such programs themselves.

While coaches had positive perceptions of the control they have over teaching CLT, they were less convinced of their capability to do so. This suggests that education programs need to better equip coaches with the skills to deliver such programs to their junior players

confidently. This conclusion was also reached from coach responses to an education program to enhance safety in youth ice hockey in Canada.[4]

There are some limitations to this study. First, the sample size was relatively small and it is not known how representative of other junior netball coaches the surveyed sample was. Second, it did not collect information about other factors that could influence coaches' views (e.g. experiences with injured athletes, previous engagement in delivering safety programs, etc).

In conclusion, when coaches operate with a high degree of autonomy, their delivery of safety programs may depend on what they think other coaches are doing in relation to such programs. Strategies to increase coach willingness to deliver safety training programs should include opportunities for communication between coaches about what they are/are not doing (e.g. engaging high profile coaches to act as positive role models in coach education sessions). Although sporting bodies could place expectations on coaches to deliver safety programs in their training sessions, coaches' actual actions may depend on how competent they believe they are to do so. Coach education that provides the skills/strategies necessary to implement these programs, including how to generate and maintain player motivation, could assist with this.

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**Table 1. Determinants of coach behaviours in relation to delivering a safety program during training sessions for junior netball (n and % of responses)**

	<b>Extremely positive*</b>	<b>Quite positive</b>	<b>Slightly positive</b>	<b>Neither (neutral)</b>	<b>Slightly negative</b>	<b>Quite negative</b>	<b>Extremely negative</b>
<b>Attitude</b>							
For me to teach CLT would be ... (beneficial – harmful)	40 (78%)	8 (16%)	3 (6%)	–	–	–	–
I feel (positive – negative) about the idea of teaching CLT	30 (59%)	19 (37%)	2 (4%)	–	–	–	–
For me to teach CLT is ... (valuable – worthless)	36 (71%)	13 (25%)	1 (2%)	1 (2%)	–	–	–
For me to teach CLT would be ... (good – bad)	33 (65%)	15 (29%)	3 (6%)	–	–	–	–
<b>Subjective norms</b>							
People who I think know a lot about netball teach CLT ... (true – false)	14 (28%)	18 (35%)	9 (17%)	5 (10%)	4 (8%)	1 (2%)	–
People who I think know a lot about netball would think teaching CLT is ... (good – bad)	29 (57%)	20 (39%)	2 (4%)	–	–	–	–
Junior coaches who's opinion about junior netball coaching I value teach CLT ... (true – false)	12 (23%)	26 (51%)	6 (12%)	3 (6%)	2 (4%)	2 (4%)	–
Coaches who's opinion about junior netball coaching I value would think teaching CLT is ... (good – bad)	37 (72%)	11 (22%)	2 (4%)	–	1 (2%)	–	–
<b>Perceived behavioural control</b>							
I am capable of teaching CLT ... (true – false)	16	26	7	–	–	2	–



	(31%)	(51%)	(14%)			(4%)	
For me to teach CLT is ... (possible – impossible)	24	21	4	–	2	–	–
	(47%)	(41%)	(8%)		(4%)		
It is mostly up to me whether or not I teach CLT ... (true – false)	22	19	5	–	–	3	2
	(43%)	(37%)	(10%)			(6%)	(4%)
I have complete control over teaching CLT ... (true – false)	24	18	4	1	2	1	1
	(47%)	(35%)	(8%)	(2%)	(4%)	(2%)	(2%)

**CLT=correct landing technique as part of every junior netball training session**

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